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Texas Electric Cooperatives

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May 28, 2021

Thomas Gleeson
Executive Director
Public Utility Commission of Texas
1701 N. Congress Ave.
Austin, TX 78701

Dear Mr. Gleeson,

In response to your letter dated April 22, 2021, below is a summary of TEC safety training provided to participating entities as it relates to House Bill 4150 and hazard recognition.

Introduction

All organizations participating in TEC safety training receive a curriculum that includes, among other things, detailed information regarding hazard recognition, adherence to National Electric Safety Code (NESC) guidelines for construction, operation and maintenance of transmission and distribution lines, NESC Rule 232, and clearance requirements over all Army Corps of Engineer lakes.

These courses are provided to participating organizations and are available by webinar for review at any time. TEC will update the content should the underlying requirements change. TEC additionally provides ongoing safety training that includes elements of the HB 4150 training to all participating co-ops on demand.

Detailed Summary of Training

TEC's training first includes an overview of HB 4150 with an explanation of compliance and regulatory requirements for utilities operating in Texas. The employee training elaborates on how to comply with the requirements of the bill and the relevant PUCT Substantive Rules and reporting deadlines. The primary focus of the training then moves to hazard recognition and an explanation of clearance guideline requirements under a variety of conditions. The ultimate

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goal is preparing employees to proactively recognize and report hazards and clearance-related issues on their utilities' systems.

A portion of TEC's training addresses clearance and other safety requirements applicable to transmission facilities, which are defined as facilities operating above 60 kV. This training focuses on transmission clearances, strength issues, and access to overhead transmission lines. Specific aspects of the course include maximum operating temperature and sag requirements, maximum operating voltage, elevation above sea level, electrostatic effects related to vehicles, buildings, and signs, and other equipment prone to power line interaction, and deflection or displacement of insulators and structures.

The training additionally includes information regarding adders used to determine transmission clearances by voltage and elevation per NESC rules. The course also addresses mid-span conductor clearances, power line and phone line crossings, and grade of construction for voltages over 22 kV. Strength requirements are a particular focus in terms of guying strength and under-build requirements. This portion of the course concludes with proper identification of climbable supporting structures according to NESC rules.

The main objectives as it relates to the construction of overhead transmission lines and HB 4150 training are: to (1) determine appropriate vertical and horizontal clearances for transmission lines over land, roads, bridges, and waterways including lakes; (2) define maximum sag for determined clearances; and (3) identify strength requirements for transmission facilities. Example problems are provided to students to ensure they can determine clearance requirements under a wide range of variables and scenarios.

TEC's training also provides in-depth information on hazard recognition. The goal for this training is to educate electric cooperative employees to observe, recognize, and remediate hazardous situations. Detailed course content is provided to personnel regarding the definition of a hazard and what types of hazards must be documented, which would include any condition that could cause personal injury or property/facility damage or have an adverse effect on system reliability.

In particular, training is provided on identifying hazards associated with non-compliance with the NESC, failed system components or structural issues such as hardware failures and

conductor issues, failure of warning lights, marker balls, fences, or signs, and recognition of changes in conductor sag for long spans.

The training also focuses on hazard recognition regarding activities occurring near a transmission or distribution line, including grading, crane operation, scaffold clearances, irrigation, and construction of adjacent buildings or signs.

Next, the training addresses right-of-way issues that may create hazards such as vegetation, structurally unsound trees, and erosion in the right-of-way. This training concludes with details on how to appropriately prioritize responding to hazards based on clear and objective assessments of risk established in a hazard recognition program. Finally, training is provided around the importance of documenting hazards and thorough recordkeeping, including how to document hazards and corrective actions according to NESC rules.

Description of Materials

Materials provided to participants in TEC's hazard recognition training include a summary outline of the training, PowerPoint presentations that accompany the training, copies of the relevant provisions of the statute, a compilation of NESC vertical clearance requirements, and copies of the PUCT reporting forms.

Respectfully,

Julia Harvey
Vice President, Government Relations & Regulatory Affairs
Texas Electric Cooperatives, Inc.